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Some Phases of the Canning Industry

INTRODUCTORY STATEMENT

In 1939 the National Canners Association established a Committee on Economic Research. This Committee considered at length the advisability of an economic survey of the industry. The industry had had an extraordinary growth in the preceding twenty-five years. From small beginnings it had developed into a national industry, with many hundreds of individual canning enterprises covering the entire area of the United States. The financial and marketing practices of these enterprises and their relations with farmers, can companies, distributors, and customers were known generally to informed members of the canning industry. But no general economic survey of the industry had ever been made.

It was the judgment of the Committee on Economic Research that a survey would be of value to the individual members of the industry. It was decided that the survey should be made by a director who should be an outside person, independent of the National Canners Association and of the enterprises in the industry. This director of the survey was to have certain qualifications. He should be an economist of maturity and professional standing. He should have no intimate prior knowledge of the canning industry. He should have no personal, professional, or financial connections with the industry or with any interest associated with the industry.

The Committee selected the undersigned writer to make the survey. In the preliminary arrangements it was specifically agreed that the Director was not to be instructed or advised as to the methods to be pursued, the conditions to be investigated, or the practices to be analyzed. No suggestion was ever made to him as to the facts to be developed or the conclusions to be reached. The instructions were to make as complete a survey as possible of the general economic condition of the canning industry, the prevailing financial and marketing practices, and the relations of the industry with its suppliers and its customers. It was explicitly agreed that the findings of the survey should be complete and impartial, whether the resulting conclusions were favorable or unfavorable to the industry in any respect. The Director was to make such recommendations as he should see fit to make whether in the interest of the industry itself or the industry's customers, the general public.

The ground-work of the survey was done in 1939. The material was gathered in 1940, and the tabulations and analyses were made in that year. The advent of war and of economic conditions entailing radical changes in all industry led to a decision to defer the preparation of the final survey report, which was to have been presented early in 1941.

Recently the Committee on Economic Research suggested that it would be of interest and value to the industry to have presented some of the findings of the survey. The paragraphs below are brief summaries of some of the chapters in the report now in preparation. Certain facts about these summaries should be noted. They are brief and informal statements of more elaborate studies in the survey report. They deal only with the financial and economic aspects of the canning industry. Production and distribution problems are not discussed. These summaries are wholly factual and analytical, containing none of the recommendations as to prevailing practice which will appear in the survey report. They are condensations of parts of the survey report written many months ago, before the conditions of war radically changed the financial, production, regulation, and taxation problems of the canning industry, as of all other industries.

NEIL CAROTHERS, *Survey Director.*

I. The Enterprises Covered

There are more than 3,000 canning plants in the United States, operated by more than 2,000 separate canning enterprises. The various divisions of the industry can soup, vegetables, fruit, fish and sea-food, meat, milk, and dog-food. The enterprises are situated in practically every State and in Hawaii, Alaska, and Puerto Rico.

There are basic differences in the economic situation, financial practices, and industrial relations of these various groups of canners. The raw materials problems of fish canners are quite different from those of vegetable canners. Fruit canners and milk canners have quite

different manufacturing problems. For purposes of this survey it was essential to consider the various groups separately.

The most numerous, the most widely located, and the most important group is that which cans fruits and vegetables. The soup canners manufacture a product similar in many respects. The operations of the specialty canners, such as the meat canners, resemble those of the fruit and vegetable canners in many respects. But the canning of soup is a special branch of the industry, chiefly carried on by a very few very large companies, whose operations differ from those of fruit and vegetable canners and whose financial and commercial situation is quite different from that of the ordinary canner. The specialty canners, very few in number, produce a great variety of products manufactured under special conditions. To include these few soup and specialty companies in a survey of the financial and industrial operations of nearly two thousand fruit and vegetable canning enterprises would not be advisable.

Therefore this portion of the survey covers only fruit and vegetable canners. Fish, meat, and milk canners are excluded, as well as the few soup and vegetable canners referred to in the preceding paragraph. Except as noted, all statements made hereafter refer to fruit and vegetable canners. A small number of the fruit and vegetable canners also produce a relatively small quantity of fish or soup or specialties, but this fact in no way alters the conclusions as to fruit and vegetable canning.

II. The Method of the Survey

An economic survey of an industry of many hundred separate enterprises scattered over the entire United States can be made only through the device of the individual questionnaire. There is no other practical method of obtaining specific facts about the operations of the member enterprises. The questionnaire sent to the fruit and vegetable canners was an elaborate and searching inquiry into the operations of the individual enterprises. There was an exhaustive inquiry into financial practice, covering investment, capital structure, borrowings, costs and earnings. The inquiries covered also the special relations of the canners with farmers, can-makers, brokers, and customers.

Participation in the survey was entirely voluntary. The questionnaire called for considerable labor and involved some expense. It was intimate in character, asking for details not normally vouchsafed to outsiders. It called for some degree of precise accounting knowledge. Under these conditions it was obviously impossible to obtain questionnaire returns from a majority of the canning enterprises. Large numbers of canners anxious to participate abandoned the task of completing the questionnaire in a period of depression and in a time of rapid increase of compulsory reports to government agencies. Under the circumstances the large number of perfectly completed questionnaires received was a surprising testimony to the unselfish and progressive spirit of the industry.

III. The Data Obtained

There are around 2,000 fruit and vegetable canning enterprises in the United States, owning about 2,700 canning plants. At all times there are numbers of inactive enterprises. Any census of individual canning enterprises published at any time will after a short while contain the names of many enterprises whose operations have been temporarily suspended or permanently discontinued. In prosperous periods the number of active canners increases rapidly. In unfavorable periods the number declines. At all times there are a number of enterprises in process of merger, consolidation, change of ownership, or liquidation.

Under such circumstances a permanent census of active and continuously operating enterprises is unobtainable. The number of active, continuously operating canners is much smaller than a total of all canners listed in censuses taken by government authority or State associations of canners. Available data would indicate that 1,600 is a fair estimate of the number of canning enterprises which are permanently established and regularly operated, in good times and bad, with a volume of production of any statistical consequence. A prolonged period of prosperity would gradually increase the number of those whose operations are regular and, within limits, permanent. In periods of prolonged depression the number is decreased by the suspension of operation of many companies which would normally be designated as "permanent" operators.

The questionnaires cover the operations of fruit and vegetable canners for the three years 1936, 1937, and 1938. There is wide diversity in the fiscal year dates shown by canners. The majority have the calendar year as the fiscal year, but many end their fiscal year in the Fall or Spring months. The questionnaires were adapted to this diversity. Statistically, the diversity is an advantage, since the fiscal years adopted tend to conform to the seasonal operations of the individual enterprises.

Fruit and vegetable canners returned 235 questionnaires. This number constituted about 15 per cent of the estimated total of all regularly operating canners. Of this total of 235 questionnaires 40 were incomplete or inaccurately filled out. Thus there were 195 complete returns available for tabulation. This is about 12 per cent of the estimated active canners. The figures from the incomplete returns were necessarily excluded from the averages and totals derived from the 195 complete questionnaires. But a comparison of the excluded questionnaires with the complete group showed that the figures actually given in the excluded questionnaires agreed with and confirmed the averages obtained from the complete group. In other words, this survey is based upon returns from almost 15 per cent of the permanent members of the industry, but the totals and averages

presented hereafter are from the 195 questionnaires which were complete, these constituting a little more than 12 per cent of the total.

The enterprises included in this 12 per cent produced about 30 per cent of the entire fruit and vegetable pack in 1938. The figures for certain products are as follows:

Corn	38 per cent
Peas	39 per cent
Beans	36 per cent
Peaches	36 per cent
Pears	50 per cent
Tomatoes	14 per cent

This 12 per cent of canning enterprises purchased 32 per cent of the cans sold by the four largest can companies, operated 413 plants with a gross value of about $45,000,000, had more than 130,000 employees at the peak period and bought fruits and vegetables under contract from more than 70,000 farmers cultivating about 500,000 acres.

The questionnaires give a cross-section picture of the canning industry in the United States. The comparatively small representation of tomato canners is due to special conditions. A large part of the production of canned tomatoes comes from the Middle Atlantic States, notably Maryland and Virginia. The average enterprise in that area is smaller in size, investment, and output than the average for the industry as a whole. In general, the smallest canning enterprises failed to reply to the questionnaire, for various reasons. Consequently the returns from this area are fewer than from other regions such as New York or Wisconsin. The total returns on tomatoes were therefore smaller than for other products.

But the "sample" of the industry as a whole is adequate. All the important canning areas are represented. Large companies are excellently represented, middle-sized companies well represented, and small companies fairly represented. The representation by states is satisfactory, New York, Wisconsin, Indiana, Minnesota, and California being specially well represented.

One exception to this statement must not only be noted but strongly emphasized. It was inevitable that a searching, detailed and technical questionnaire would be answered more readily by certain types of canning enterprises. The canning company which was well-established, soundly financed, reasonably successful, and properly audited would be more likely to reply to a difficult questionnaire than a poorly financed or unstable concern with limited accounting methods. The canning companies returning complete questionnaires represented generally the older, more stable, and more successful enterprises in the industry. This survey covers the operations of three years. Obviously those concerns which were in existence during the three-year period but failed or retired before the end of the period are not represented at all. The very smallest enterprises, with primitive accounting records, were unable to answer the questionnaire. Finally, the enterprises in difficulties had neither the time nor the inclination to concern themselves with the questionnaire. The questionnaires represent 12 per cent of the industry. But this 12 per cent of all concerns produces about 30 per cent of the total product. Thus the average enterprise returning the questionnaire produced about 2½ times as much as the average enterprise throughout the industry.

In sum, the returns from the questionnaire give a picture not of the industry as a whole but of the larger, more stable, more successful, and more efficient enterprises in the industry. This appears to be markedly true of the returns from the smallest enterprises. The returns from this group show an earnings rate and a capital structure which are apparently far superior to that of the average very small enterprise. These facts are of vital importance in the survey. They must be kept in mind in any consideration of the conclusions presented in these notes.

IV. Classification of Canning Enterprises

Canning enterprises are divided, according to form of organization, into individual proprietorships, partnerships, and corporations. A postal card inquiry was addressed to nearly 2,000 canners. It elicited nearly 1,000 replies. These replies showed that 62 per cent were corporations, 26 per cent proprietorships, and 12 per cent partnerships. Even with so large a number of replies, covering more than one-half of the active canning concerns, the enterprises replying to the inquiry represent a larger proportion of corporations than would be disclosed by a complete census of the entire industry. The smaller concerns replied in less ratio than the larger, and the smaller concerns have a larger proportion of proprietorships and partnerships. It is probable that about 60 per cent of all canning enterprises are corporations, and 40 per cent unincorporated concerns.

An overwhelming majority of the large concerns are incorporated, perhaps half of the smaller concerns. The proportion of the total product made by the incorporated enterprises is very large. They produce from 80 to 90 per cent of the total product, employ a proportionate volume of the total labor, and pay an even larger proportion of the total taxes paid by the industry.

For purposes of this survey all canning enterprises have been classified by form of organization and by size. The smaller enterprises having the proprietorship and partnership form are classified in four groups. The corporations, varying widely in size, are classified in seven groups. The classifications are as follows:

Proprietorships and Partnerships

Group I-P	Net Assets	under	$50,000
Group II-P	Net Assets	$50,000 to	$100,000
Group III-P	Net Assets	$100,000 to	$200,000
Group IV-P	Net Assets	$200,000 to	$300,000

Corporations

Group I-C	Net Assets	under		$100,000
Group II-C	Net Assets	$100,000	to	$200,000
Group III-C	Net Assets	$200,000	to	$300,000
Group IV-C	Net Assets	$300,000	to	$500,000
Group V-C	Net Assets	$500,000	to	$1,000,000
Group VI-C	Net Assets	$1,000,000	to	$2,000,000
Group VII-C	Net Assets	over		$2,000,000

This classification into eleven groups is less simple and convenient than a classification into small concerns, medium concerns, and large concerns. But this more convenient classification into three groups only would not adequately portray the actual financial operations and economic situation of the industry. The eleven classifications include companies of all sizes and types, with net tangible assets varying from $15,000 to many millions of dollars. It is suggested that in any consideration of the facts presented in this report the very large differences in size in those eleven groups be kept in mind.

V. Canner Relations to Agriculture

The raw materials of canning are fruits and vegetables. The essence of the canning business is the processing of fresh fruits and vegetables at the moment when they are in most perfect condition for such processing. The fruits and vegetables used in canning are specially selected for type and quality. The fruits are of specially chosen varieties, grown under special systems of cultivation and care. The vegetables are grown from selected seed, with special methods of cultivation and harvesting.

This condition gives rise to a peculiarly intimate relation between farmer and canner. For the bulk of the canning industry's operations the canner must make contracts with the farmer long in advance of planting. In the case of vegetable canning the canner usually supplies the seed, sometimes supplies capital and labor, and often supervises cultivation and harvesting. From the time of contracting to final payment to the farmer, the welfare of both parties is based upon the success of the crop and the market for the product. The interests of the canner and the farmer are indissolubly joined.

The canners covered in this survey purchased raw materials in 1938 from more than 70,000 farmers. Many times that number supply raw materials to the canning industry as a whole. Many thousands of farmers grow fruits and vegetables exclusively or especially for the canning industry. In the later summary on the economic status of the canner there is an explanation of the peculiar economic hazards to which both farmer and canner are subject.

The relationship of canning and agriculture is made even more intimate by the fact that a large number of canners *are* farmers. Originally the canning industry grew out of the farming industry. Ambitious farmers discovered in the new industry of canning a means of disposing of their highest quality produce. In the course of time the highly technical problems of scientific canning called for a special industry of canning separate from farming, and the two are now distinct. But a large proportion of canners still own their own raw materials farms and grow their own fruits and vegetables.

In 1938 more than 31 per cent of the canning enterprises covered by the survey were owners of farms. The percentage owning farms is largest among the small enterprises and the very largest enterprises, less common among the middle-sized enterprises. Hundreds of small farmers have established canning concerns as a joint enterprise. The large percentage of farm-owners among the largest enterprises is due to the general tendency of the few very large companies to acquire some sources of raw materials. In the various groupings the enterprises owning farm property, by percentages, are as follows:

	Per cent
Group I-P (under $50,000)	36
Group II-P ($50,000-$100,000)	50
Group III-P ($100,000-$200,000)	25
Group IV-P ($200,000-$300,000)	57
Group I-C (under $100,000)	23
Group II-C ($100,000-$200,000)	13
Group III-C ($200,000-$300,000)	11
Group IV-C ($300,000-$500,000)	32
Group V-C ($500,000-$1,000,000)	55
Group VI-C ($1,000,000-$2,000,000)	45
Group VII-C (over $2,000,000)	62
All canners	31

This figure of 31 per cent of canning enterprises owning farms does not fully represent the extent of farm ownership. In some cases stockholders in canning corporations own farm property personally. In other cases individual and partnership owners of canning enterprises own farms independently. In such cases the statement of assets of the canning enterprise will include no farm property, but the farms are in reality a part of the owner's equipment, and the economic integration of canning and agriculture is definite if invisible. It is probable that one-third of the canning enterprises of the country own farm property from which they obtain all or a part of their raw materials.

The total holdings of farm property by the enterprises represented in the survey, compared with factory investment, are shown by the following table, giving assets to the nearest $100,000:

Total plant value	$44,900,000
Total farm property	7,800,000

Thus, farm property constitutes about 15 per cent of the total of combined fixed assets in both plant and farms. For every $5.75 in plant canners own $1.00 in farm property. Inasmuch as only about a third of all canners own farm property, it is obvious that for the group owning farms their holdings in farm property are about 45 per cent of the values invested in plant.

The ownership of farm property in large volume by canning enterprises makes canning a unique industry. Agriculture above all other economic pursuits is subject

to the fortuitous and unpredictable hazards of nature, against which no provision of prudence or foresight is effective. No adequate instrumentality for protecting the farmer against the variations of nature has been found. The canner who grows his own raw materials faces these hazards of the farmer, in addition to the inevitable risks of production and sale in the most harshly competitive industry in America.

VI. The Economic Status of the Canner

Essentially the business of the canner is the processing of raw fruits and vegetables by cleaning, preparing, cooking, sterilizing, and enclosing them in air-tight containers. After the canning process there are the additional tasks of labeling, insuring, storing, selling, and transporting the finished goods.

The fruit and vegetable raw materials of canning are harvested at the critical point where they are of maximum quality for canning. The canner must take the raw materials when they are ready. The canning process itself is practically instantaneous. In the case of all but a few "non-seasonal" raw materials the fruits and vegetables must be processed immediately or thrown away. Under ordinary conditions the canning is done before the product is sold and often when the prospective buyers are unknown. The price of the product is determined by market conditions after the raw materials are canned.

But a supply of raw materials of the type and quality required for canning must be arranged for in advance. The usual arrangement is a contract with the farmer in advance of planting, under which the canner provides seed and sometimes other resources and obligates himself to take the crop from a fixed acreage at a fixed price.

Thus, a canner undertakes to buy raw materials at a fixed price months in advance of manufacture. When the crop is harvested he must proceed with the canning, even when the price he will receive for the pack is not yet determined. From the first contract with the farmer the canner faces a speculative hazard. The prices of canned foods vary with the size of the pack and the prosperity of the country, both unpredictable.

The extreme risks borne by farmers are proverbial. The cotton or wheat farmer is notoriously the helpless victim of the unpredictable and arbitrary operation of the forces of nature. The canner shares this basic uncertainty with the farmer. In the degree that the canner contracts to pay fixed prices for the raw materials he faces an additional risk, in addition to the basic risk of crop failure which the farmer faces. To a considerable extent the canner takes over the price risks of the farmer by guaranteeing the price of the farmer's product in advance of its being grown.

The canner is in large measure helpless to control the size of his pack. If the crop is very short the higher prices for his pack will not offset his losses from fixed overhead in idle plant and investment. If the crop is excessive, with low prices for the product, he is still driven to pack an excessive amount. Any other course means an ordinary pack sold at below-normal prices. Conservatism and prudence in the face of a very large crop do not protect the canner if his competitors take advantage of the large supply and low price of raw materials to pack a very large volume. The canner faces loss in overproduction periods whether he packs a large or small amount.

Thus, the canner is exposed to two dangers. One is the prospect of a less than normal pack which will not meet his total costs. The other is the prospect of a greater than normal pack which will sell for less than cost of production. The happy condition in which there is a normal crop, a normal pack, and a normal price for the product does obtain at times, but it is rare. And it very rarely exists over the whole country. Normal conditions may prevail in Indiana while Maryland suffers disaster. Profits to one area of the country frequently come from misfortune in another area. Large profits in canning for the whole industry are exceptional results of extraordinary conditions. Sometimes profits derive from a preceding period so devastating that it drove from business a large percentage of canners and left the survivors an exceptional opportunity. Even in favorable years the prospects of profits is reduced by the re-entrance into the business of many canners whose operations have been suspended in preceding years.

The canner's inevitable risks arising from crop fluctuations are created by basic economic forces. Canned foods are goods of relatively "inelastic demand." This means, simply, that consumers will buy a relatively fixed amount regardless of price. A reduction in price will not attract a corresponding increase in sales. Buyers do take more if the price is lowered and less if the price is increased, but not in proportion. To sell a pack double the normal size the price must be reduced to less than half the normal price. This principle is the iron law which brings disaster to farmers the world over. It works with relentless severity in canning. A crop and pack twice the normal size will reduce the canner's cost of production per unit, but not by a very large percentage. But this double pack will glut the market and reduce the price to the vanishing point.

Conversely, a short pack will normally increase the price well above the proportionate reduction in the pack. The canner should, theoretically, benefit from a short crop. Actually he is exposed to loss. His volume of production is out of line with his investment. His total returns at the higher current prices may not meet his combined variable and fixed costs. In the case of complete crop failure for the individual the high prices of canned foods are of no benefit, and the canner's entire year's investment is lost. Finally, the possibility of substitution of other foods sets a fixed ceiling on the rise of price even in periods of small packs.

This economic principle of inelastic demand creates a phenomenon in canning unparalleled in any other manufacturing industry. The impossibility of selling excessive packs at rational prices creates the "carry-over." Very large packs mean sales of a part of the pack at low prices and a carry-over of the remainder. This annual volume of carry-over is a basic factor in the industry at all times. When carry-over is large the canner is unable to meet his current obligations. If the following year is also a year of large production, the second carry-over may be larger than the first. The canner must choose between forced sales of his product at distress prices or forced loans to finance additional carry-over. In the end the decision is usually made by his creditors. Two years of unusually large crops will cause distress and failure in canning just as two years of short crops will cause distress and failure.

Every canner faces relentless and incessant competition from a host of competitors. Competition is universal and almost unrestrained. Thus, the canner's business is exposed to the double hazards of peculiarly intense competition by his fellow-producers and unpredictable forces governing agriculture. Crop failure and over-abundance operate to bring the same economic ills to the canner as to the farmer.

Canning is thus an extra-hazardous industry. The business lives in the shadow of risk. The canner who stays in business for ten years without reorganization or composition with creditors is not only an able and resourceful business man but a fortunate business man as well. In a later chapter the high mortality in the industry is statistically shown. It is a consequence of the elementary economic forces outlined here. In another later chapter the profits of the business are shown. The low rates of profit and the extraordinary prevalence of deficits throughout the industry are also a consequence of these same economic forces.

VII. Canner Working Capital

Working capital in any industry is simply the available assets used to pay the costs of operation before cash returns come in from sale of product. The primary costs are, usually, outlays for raw materials, supplies, labor, storage, and transportation. For many items cash payments are mandatory. Labor, taxes, insurance, interest on long-term debt and other items are normally paid for in cash when due. Payment for other cost items may be postponed by arrangement. Raw materials and other supplies may frequently be paid for at future dates.

Working capital is chiefly obtained from three main sources. The first is the cash assets of the enterprise, from surplus or any other source. The second is short-time loans from banks. Since the granting of credit by suppliers removes the necessity for raising cash working capital, it is proper to consider trade credit as the third main source of working capital.

The most important and difficult problem in the financial management of any enterprise is the determination of the most efficient arrangement of cash assets, bank loans, and credit purchases. The most efficient technical methods in physical production will not keep an enterprise alive if it fails to organize its working capital advantageously. In this brief and partial summary of working capital conditions in canning there will be no discussion of the efficiency of prevailing methods of canners. The only purpose of this summary is to show the relations among canners and their suppliers of working capital.

In the ordinary manufacturing industry the usual practice is for the individual enterprise to provide a part of its working capital from its own assets and to obtain the remainder from bank loans or credit purchases of supplies, paying off its current debt after the peak load is passed. The extent of its resort to bank loans and credit purchases depends generally on the size of the peak operations and the rate of sale of the product.

The outstanding features of the canning industry's financial operations are the extraordinarily high peak burden and the delay in the sale of the product. Canning operations are concentrated within an extraordinarily brief period. As has been explained, the product may be sold months later. This economic situation creates a pressing need for a large volume of working capital for a very brief period at a time when there are little or no returns from sales of product. It is impossible for the canner to keep continuously in his business sufficient cash working capital to meet the peak load of obligations in the canning season. Raw materials from the farmers, cans from the can-maker, and labor from his employes call for outlays entirely beyond the canner's own cash resources. His first recourse is the local bank. It is the local bank which provides the bulk of the working capital of the average canner.

The sources of the canner's working capital are revealed in the following table, which shows, to the nearest $100,000, for the end of the year 1938, the long-term debt, current debt, and capital and surplus of the canners represented in the survey:

Total liabilities	$150,900,000
Long-term debt	15,200,000
Short-term debt	44,000,000
Net worth	91,700,000

It will be noted that at the year-end, which is well beyond the canning season and far into the period of returns from sales of product, the short-term debt is 29 per cent of the total liabilities and 48 per cent of the total capital and surplus.

In addition to working capital obtained from the banks, the canner depends to a considerable extent on credit extended by the can-maker and to a less extent on credit granted by the grower of raw materials and other sup-

pliers. The canner may obtain additional credit from the seed-grower, the condiments supplier, the box-maker, the warehouse company, and the broker. It should be understood that in the case of a large proportion of all canners the farmer is paid in cash on delivery of his produce or shortly after delivery. In still other cases the canner pays cash for the cans. Many canners operate on a "cash basis" so far as their own resources and their bank loans make such a basis possible, taking cash discounts and paying for supplies as delivered. But the industry as a whole does receive a large volume of credit from the can-maker and from the grower and other suppliers.

This cooperative relationship in the canning industry is unique. There is no other American industry in which the suppliers have so close a relationship to the enterprises of the industry. The situation is revealed in Table I and Table II. In Table I the accounts and notes payable of all canners are shown for the year 1938. The first column shows the accounts and notes payable at the peak period in the canning season, when the total of all obligations is at the highest point for the year. The second column shows the debt at the end of the year. The third column shows the percentages of the peak-period debt paid off by the end of the year. Table II shows the percentages of the total debt owed to various creditors at the two periods and also the ratio of the peak debt to the year-end debt. The item "other suppliers" covers credits extended by box-makers, label-makers, condiments suppliers, storage and transportation suppliers, and others. The large item for "other creditors" covers a multitude of credits of various kinds, such as loans from suppliers, relatives of the proprietors, and others.

TABLE I.—*Accounts and Notes Payable, for year 1938 (nearest 000)*

	Peak period	End of year	Paid-off by year-end *Per cent*
Banks	$49,382,000	$24,499,000	50.4
Can companies	12,551,000	8,719,000	30.5
Growers	6,219,000	1,070,000	82.8
Brokers	287,000	252,000	12.2
Machinery companies	262,000	206,000	21.4
Seed companies	112,000	134,000	−19.6
Other suppliers	1,854,000	1,128,000	39.2
Other creditors	7,513,000	5,354,000	28.6
	$78,180,000	$41,362,000	47.1

TABLE II.—*Accounts and Notes Payable, for year 1938 (per cent of total and ratio of peak to year-end)*

	Peak period *Per cent*	End of year *Per cent*	Ratio of peak to year-end
Banks	63.2	59.2	2.0
Can companies	16.1	21.1	1.4
Growers	7.9	2.6	5.8
Brokers	.4	.6	1.1
Machinery companies	.3	.5	1.3
Seed companies	.1	.3	.8
Other suppliers	2.4	2.7	1.6
Other creditors	9.6	13.0	1.4
	100.0	100.0	1.9

The tables show generally the heavy pressure of debt borne by the canner from the beginning of the canning season right through the selling season to the end of the year and beyond. It will be noted that at the peak debt period the bank's share of the total debt is about five-eighths, the can company's share about one-sixth, the farmer's one-thirteenth, and "other creditors'" almost one-tenth. These figures disclose interesting aspects of the canners' operations. The peak-debt period is at the height of the canning season, when both raw materials and containers are being delivered in heavy volume. It may be stated that the total cost of containers is not greatly different from the total cost of raw materials. But the canner pays in cash such a large proportion of his total debt to the growers that the debt is less than half the debt owing to the canmakers.

Comparison of Table I with the table of total liabilities given on page 6 will reveal the financial strain of operations at the height of the canning season. (The difference in the short-term debt in the one table and the accounts and notes payable in the other is due to the inclusion in the total short-term debt of certain accrued liabilities.) The tables show that enterprises with a total capital and surplus of about $92,000,000 are carrying a short-term obligation in notes and accounts payable of $78,000,000, and this is in the face of the fact that payment for the product may be delayed many months.

The changes in the debt from the peak period to the year-end are significant. The figures show that the grower, although he normally has no legal security, has been better paid than any other creditor. The farmer has received more than 80 per cent of the amount owed him at the peak period. The banker has been paid slightly more than half. Despite the fact that he is normally secured by a mortgage, the banker has still owing to him almost half of the very large debt contracted on the average about six months previously. The can companies have collected less than one-third. They join with the banks in "carrying" the canners through adverse periods. The inverse year-end ratio for the seed companies is due to the purchase of seed for the next crop year, in some cases, before the end of the fiscal year.

These figures for short-time debt confirm the analysis of canners' risks outlined previously. The canning industry supports farmer, can-maker, and banker, in a business facing the inevitable risks arising from agricultural fluctuations. In return, the farmer, can-maker and banker join together in extending credit to the canner. In the end the canner must meet the problem of finding a market for his product, paying all these creditors, and preserving his own investment in the business.

VIII. Canner Mortality

The risks inherent in the canning industry cause an exceptionally high "mortality" rate. The volume of bankruptcies is very small. Actual bankruptcy and liquida-

tion by foreclosure are comparatively rare. A leading credit agency reported 24 failures in 1939 and 16 in 1940. The two leading can companies reported only 20 receiverships among their customers in 1938. Probably not more than 1 per cent of canning concerns annually go through the legal formalities that mark the death of an enterprise.

The reason for this limited volume of formal bankruptcies is itself found in the extraordinary risks and hazards of the industry. A regular and stable annual rate of profits is unknown. Even the exceptional enterprises which nearly always show a net profit have returns varying from a negligible profit to very high earnings. The majority of enterprises have periods of loss alternating with years of good returns. The remaining enterprises, comprising a considerable part of the industry, have continuously low returns or actual deficits, interspersed with occasional good years.

Under these conditions the ordinary procedures of business by which enterprises are thrown into bankruptcy by creditors upon the first default are rarely employed. The canning business consists of a vast cooperative organization of farmers, can-makers, bankers, and canners. The three creditor groups are themselves dependent on the canner for their business existence. They recognize the irregularity of canner returns. A deficit in operations in bad years is an accepted phenomenon, and a canner in default in his payments is generally "carried" by the banks, can companies and other creditors so long as there is expectation of eventual payment.

But the very causes which reduce formal bankruptcies account for a volume of mortality of another kind of large volume. The extent of mergers, liquidations, distress sales of enterprises, and voluntary retirements is high. An exact census of such mortality cannot be made. But this survey has tried to examine all available statistics and has supplemented the figures by private investigations.

All the studies indicate a high mortality rate in all sections of the country. Canning in New York is long established and relatively stable. Of 137 canners licensed in 1937 a total of 15 did not operate the following year. Of 126 licensed in 1938, the same number, 15, had failed or suspended by the end of the year. A special study has been made of the mortality of canners in certain areas of California, and this survey has analyzed the results. In 1927 there were 59 canning enterprises. In the twelve years to 1939, 94 new concerns entered the business, making a total of 153 concerns in existence in 1927 or after that date. Of this total 75 had died by 1939. The mortality averaged 9 per cent annually for the period.

This survey has made an analysis of the annual listings of all canners in the National Canners Association's Annual Directory from 1924 to 1938. Table III covers the years from 1924 to 1929. The figures include fruit, vegetable, soup, meat and milk canners. The period from 1924 to 1928 was one of general prosperity. Of the more than 2,600 enterprises in the country one in three had disappeared in the five years to 1929. The figures show an annual mortality of more than 6 per cent.

TABLE III.—*Canner Mortality, United States and Selected States, 1924 to 1929*

	Operating in 1924 *Number*	Out by 1929 *Number*	Out by 1929 *Per cent*
United States	2,644	891	33.7
Arkansas	47	19	40
California	179	65	36
Indiana	130	42	32
Maryland	359	124	34
Missouri	132	60	45
New York	150	50	33
Virginia	346	151	44
Washington	164	40	24

There is included in this estimate a considerable volume of disappearance of enterprises which does not represent liquidation. The names of companies regularly expire through natural processes, such as change of name, death of the owner, change of organization form, merger, or outright purchase by new proprietors. Such disappearances are here included in the total "mortality," even though it is not mortality but merely the changing of name of a going concern. But another factor much more than offsets any excess statement of actual mortality as a result of this inclusion. The figures here do not include the very considerable mortality of concerns which were established after 1924 and disappeared before 1929.

Table IV covers the period from 1929 to 1938. These were the years of the Great Depression. In the nine years more than half the concerns in business in 1929 had disappeared. The annual mortality was about 6 per cent. But here, even more than in the shorter period, the figures do not reveal the additional mortality which derives from the large number of new enterprises coming in after 1929 and disappearing before 1938. The actual annual mortality in the canning industry is probably around 7 per cent. In the period from 1924 to 1929 the new canners entering the business exceeded the number retiring. Almost 900 dropped out, and more than 1,000 enterprises came in.

TABLE IV.—*Canner Mortality, United States and Selected States, 1929 to 1938*

	Operating in 1929 *Number*	Out by 1938 *Number*	Out by 1938 *Per cent*
United States	2,822	1,512	53.6
Arkansas	108	64	59
California	226	109	48
Indiana	150	70	47
Maryland	322	186	57
Missouri	170	124	73
New York	132	71	54
Virginia	244	147	60
Washington	152	83	55
Wisconsin	168	53	32

These figures have a deep significance. The men who own and direct canning enterprises are capable and resourceful men. They have the backing and cooperation of the banks and the great can companies. They wage a relentless battle with the economic forces which surround their business. And yet the hazards of the industry are so great that liquidation and retirement are the inevitable fate of a large percentage of the industry, in good times as well as bad.

IX. Earnings of Canners

In the preceding chapters the economic conditions which lead to irregular returns in the canning industry have been analyzed. Recently a government commission published a statement of the earnings in 1939 of the 10 largest canning enterprises. The average profit of these 10 companies was 11 per cent on their sales and 16 per cent on their investment. It would be unsound reasoning to conclude that these rates of profit are typical of the canning industry. The companies covered by this report include returns from the great soup canning enterprises and the great specialty companies. As explained in the early part of these notes, these concerns are not typical of the thousands of canning enterprises in the country. Any coincidence of the earnings of these very few special enterprises with the earnings of the thousands of ordinary canning enterprises would be accidental.

It is necessary at this point to repeat the warning given earlier that the canning enterprises covered by this survey represent generally the larger, older, more stable, and more successful enterprises. The more insecure and unstable canners as well as the smaller canners are not proportionately represented. The figures presented in this chapter are a reliable index to the earnings of the more stable concerns. The heavy losses of the 15 to 20 per cent of the total enterprises which failed or retired during the three-year period are not represented at all.

The nearly 200 enterprises covered constitute a fair sample of the industry, with the proviso just made. The enterprises are divided fairly well as to the size of concern and type of enterprise. For reasons previously given, the great soup companies and the great specialty companies are not included in this tabulation.

The years covered are 1936, 1937, and 1938. This three-year period is satisfactory as a basis for consideration of earnings rates. All three years are years of the Depression. But 1936 was a year of pronounced recovery, and much more prosperous than the years preceding. The year 1937 was prosperous in the first half, with a violent recession in the latter half. The year 1938 was a year of slow recovery.

Table V gives the earnings of the industry for these three years, by groups, with four groups of proprietorships and seven groups of corporations, in accordance with the classification already described. The figures show the earnings on net worth, or actual investment in the company by the proprietors or stockholders. Earnings are set down before income taxes are deducted.

TABLE V.—*Earnings on Net Worth*

Group	1936 *Per cent*	1937 *Per cent*	1938 *Per cent*	Average for 3 years *Per cent*
I-P	11.50	8.49	9.13	9.71
II-P	13.39	11.37	8.20	10.98
III-P	14.42	9.25	2.26	8.64
IV-P	11.62	18.72	2.20	10.85
I-C	30.42	19.11	28.41 (D)	7.04
II-C	10.00	3.65	5.63 (D)	2.67
III-C	6.54	10.31 (D)	9.62 (D)	4.46 (D)
IV-C	15.65	7.08	2.04 (D)	6.89
V-C	4.20	3.05 (D)	23.48 (D)	7.44 (D)
VI-C	4.05	11.53 (D)	23.40 (D)	10.29 (D)
VII-C	11.50	7.3	2.3 (D)	5.5
All unincorporated	12.4	15.5	3.4	10.4
All corporations	10.0	3.13	7.62 (D)	1.84

D—signifies deficit.

Before analyzing the earnings situation it is necessary to point out that the table gives an exaggerated index of the earnings of the industry as a whole. In the first place, where a concern is on a cash basis and pays last year's taxes out of this year's income, income taxes sometimes convert net profits into actual deficits. In the second place, the earnings include all earnings. This means that earnings from non-canning assets are added to earnings from canning operations. These non-canning earnings, from farm property, rentals, sales, and security holdings, are not large, but they are material increases of income. In the third place, the earnings figures for the proprietorships do not give an accurate picture of the earnings of the smaller canning enterprises. Proprietors and partners do not as a group charge off proper salaries for themselves. Many of them make no charge-off whatever for their own labor. The net earnings reported in the table would become deficits for many enterprises if there were proper allowances. In the fourth place, many canners make inadequate accounting provisions for depreciation of plant, carrying equipment at valuations which lead to overstatement of earnings. Even more important is the fact, already explained, that among the smaller concerns, especially the proprietorships, the enterprises returning the questionnaire were distinctly the more successful.

The figures for the 7 corporation groups are very fair indexes. About 40 per cent of the 100 largest canning enterprises are included, and for all seven groups there is a good sample of the average corporation in the industry.

If the different years are separately considered, it will be noted that in 1936 every group made a net profit. The average was more than 12 per cent. The year 1936 was, relatively, a good year. And yet in this year three of the major groups of canners earned between 4 and 6½ per cent on their investment, and more than 15 per cent of all the enterprises in all the group had deficits.

The year 1937 was a good year for the first half, a bad year in the second half. The large earnings of some of the groups in the preceding year were sharply reduced. Among all enterprises 34 per cent had deficits. After a reasonably good year in 1936 and a good year for the first half of 1937 the concerns which were able to dispose of their packs before the acute collapse in the Fall were able to make money. The rest were, apparently, caught by the recession.

The year 1938 was, generally, a period of slow recovery. In the canning industry it was a year of misfortune. The accumulated carry-over of the preceding year and the depressed prices for the product brought heavy losses. All the corporation groups showed deficits, and all the proprietorships would probably have shown deficits with proper charge-offs. Two-thirds of all enterprises had deficits. The industry as a whole, with the profits of the money-makers included, showed a net deficit of 7.62 per cent on net worth.

The earnings of all the corporations were 10 per cent in 1936, 3.13 per cent in 1937, and minus 7.62 per cent in 1938. For the whole three-year period the net earnings were 1.84 per cent. With income taxes deducted, the earnings in 1936, 1937 and 1938 were respectively 7.55 per cent, 1.82 per cent, and minus 8.13 per cent. For the entire three years they were .41 per cent.

The first conclusion to be drawn from these figures is that there is no such thing as a "profit rate" in the canning industry. It is true that there are bad years and good years, as in other industries. But even in the worst years some canners make profits. And even in the best years a material percentage of the industry makes no profits. A second conclusion is that in this industry successive seasons or years are not separate periods from the standpoint of earnings. The effects of one bad year are carried over to the next, with the carry-over, and one bad year may mean two or even three bad years. In fact, the forced suspension of operation of a large number of canners after two or three bad years is a partial cause of the profits of the survivors in the third or fourth year.

It is a common saying in the industry that one good year in four will keep the typical canning enterprise in business. There is nothing in a survey covering only three years to prove or disprove this statement. But it is obvious from the analysis here that one good year in four is not sufficient to keep a majority of the enterprises in business. A net profit of .41 per cent over a three-year period would call for a net profit of at least 25 per cent in the fourth year to justify the continuance of the enterprise, and such profits are unknown for a large proportion in any year.

It is obvious that the irregular rates of return in the industry have the effect of complicating the problem of taxes. An enterprise which makes a net profit of 6, 8 and 7 per cent in three successive years has a tax problem quite different from that of an enterprise which makes —10, 1, and 30 per cent, although the net earnings for the whole period are the same.

There is a final conclusion reached by this survey which cannot be proved by figures presented here or available anywhere else. It is based upon a consideration of all the facts known, the total earnings, the irregularity of earnings, the high mortality in the industry, the "carrying" of canners by banks and suppliers, and other factors. The conclusion is that the canning industry as a whole does not earn any net profit return at all. The total net profits of continuing enterprises do not equal the total loss of capital invested. The dissipation of capital from failures, liquidations, distress sales, unaccounted-for labor, and recurring deficits probably exceed the total net profits from the industry.

It is admitted that this conclusion is not demonstrable statistically, but is a fair inference from the facts. Assuming that it is valid, it has a deep significance. The canning industry is a part of the national life of America. It is an indispensable industry, in peace or war. The American standard of living, the American length of life, the American physical stature and strength of body have steadily risen in the past forty years. The canning industry is undoubtedly a vital factor in this human betterment. And yet the individual members of the industry carry on their business against peculiar and excessive economic hazards and uncertainties, probably without any net return in profits whatever in the industry as a whole. The existence of the industry under this condition is a remarkable testimony to the productivity of our free enterprise system. The growth of the industry under this condition is a remarkable testimony to the vitality of the industry itself. It is the outstanding survivor among great American industries of the era of unrestrained competition and unhampered individual enterprise.

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